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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,105	12/23/2004	Tsutomu Yoshitake	Q85456	9481
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EXAMINER				
ARCIERO, ADAM A				
ART UNIT		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/519,105

Applicant(s)

YOSHITAKE ET AL.

Examiner

ADAM A. ARCIERO

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 27-52 is/are pending in the application.
- 4a) Of the above claim(s) 34-52 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 27-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CD/CD)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

FUEL CELL, ELECTRODE FOR FUEL CELL AND METHOD PRODUCING THEM

Examiner: Adam Arciero S.N. 10/519,105 Art Unit: 1795 October 29, 2008

DETAILED ACTION

1. The Applicant's request for reconsideration filed on July 30, 2008 was received. Claims 27-52 are pending. Claims 34-52 are withdrawn from consideration.
2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action issued on April 30, 2008.

Claim Rejections - 35 USC § 102

3. The claim rejections under 35 U.S.C. 102(b) as being anticipated by Nobuaki (JP 2002-056863 A) on claims 27-32 are maintained. The rejection is repeated below for convenience.

As to Claims 27 and 28, NOBUAKI discloses a fuel cell provided with a conductor film which intervenes between two electrodes (hydrogen and oxygen electrodes), each electrode has a charge collector arranged at the outside surface of said electrodes (paragraph [0001]). The hydrogen electrode **103** is a carbon electrode with a catalyst layer on one side and a hydrogen pole charge collector **106** as a conductor connected to the opposite side of the hydrogen electrode **103** (paragraph [0003]). Said hydrogen electrode and corresponding current collector are bonded by a first electroconductive glue layer (paragraph [0007]).

As to Claims 29 and 30, NOBUAKI teaches the charge collector of claim 2, comprising a gold-plated nickel material (paragraph [0010]). The gold-plated nickel material of the current collector comprises elements (nickel and gold) capable of making carbide.

As to Claims 31 and 32, NOBUAKI teaches the charge collector of claim 1 comprising a gold-plated nickel material (metal plate) (paragraph [0010]).

Claim Rejections - 35 USC § 103

4. The claim rejection under 35 U.S.C. 103(a) as being unpatentable over Nobuaki (JP 2002-056863 A) in view of Vaidyanathan (US 4,585,711) on claim 33 is maintained. The rejection is repeated below for convenience.

As to Claim 33, the disclosure of NOBUAKI as discussed for claim 27 above is incorporated herein. NOBUAKI does not expressly disclose the electrode used for a fuel cell as set forth in claim 27, wherein said current-collector has a thickness in the range of $0.05 \leq x \leq 1$ mm. However, VAIDYANATHAN teaches an electrode used for a fuel cell comprising a current collector. Said current collector has a final thickness of 75 microns corresponding to 0.075 mm. This thickness falls directly within the claimed range of $0.05 \leq x \leq 1$ mm. According to MPEP 2144.05 [R-5], the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a *prima facie* case of obviousness exists [*In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976)]. Also, according to MPEP 2144.05, “differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical”. “Where the general conditions of a claim are disclosed in the prior art, it is not inventive to

discover the optimum or workable ranges by routine experimentation,” (*In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955)). Also, because the claimed elements were known in the prior art (electrode used for a fuel cell as set forth in claim 27 and the current collector having a thickness of 0.075 mm in claim 33), one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded nothing more than predictable results to one of ordinary skill in the art at the time of the invention.

Response to Arguments

5. Applicant's arguments filed on July 30, 2008 have been fully considered but they are not persuasive.

Applicant's principal arguments are:

a) Nobuaki does not teach a separate catalyst layer lining the surface of the electrode opposite the surface contacting the current collector (claim 1).

b) Claim 33 is patentable, at least by virtue of its dependence from claim 27 (claim 33).

In response to Applicant's arguments, please consider the following comments:

a) the Nobuaki reference teaches the hydrogen electrodes are carbon electrodes. It is well known in the fuel cell art that catalyst is evenly distributed as a layer on the carbon support (electrode) as evidenced by T. Tada (Handbook of Fuel Cells, Chapter 38, pg. 481, High dispersion catalysts including novel carbon supports). Tada provides evidence for carbon supported platinum and platinum-alloy catalysts used in PEM fuel cells wherein the catalyst is

formed as a layer on a carbon support (pg. 481, Introduction). Tada further teaches of a method for forming a catalyst into a paste and printing the catalyst paste onto the carbon support of the electrode, thereby forming a separate catalyst layer on the carbon support (pg. 481, Pt Catalyst for Cathode).

b) the rejection for Claim 27 is maintained, therefore the rejection for claim 33 is also maintained.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADAM A. ARCIERO whose telephone number is (571)270-5116. The examiner can normally be reached on Monday to Friday 8am to 5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on 571-272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AA

/Dah-Wei D. Yuan/
Supervisory Patent Examiner, Art Unit 1795